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A dissertation

on

*Cynanche Pachycaulis*

for

the Degree

of

Doctor of Medicine

in

the University,

of

Pennsylvania

by

Lewis Brake

of

New Brunswick

of

New Jersey

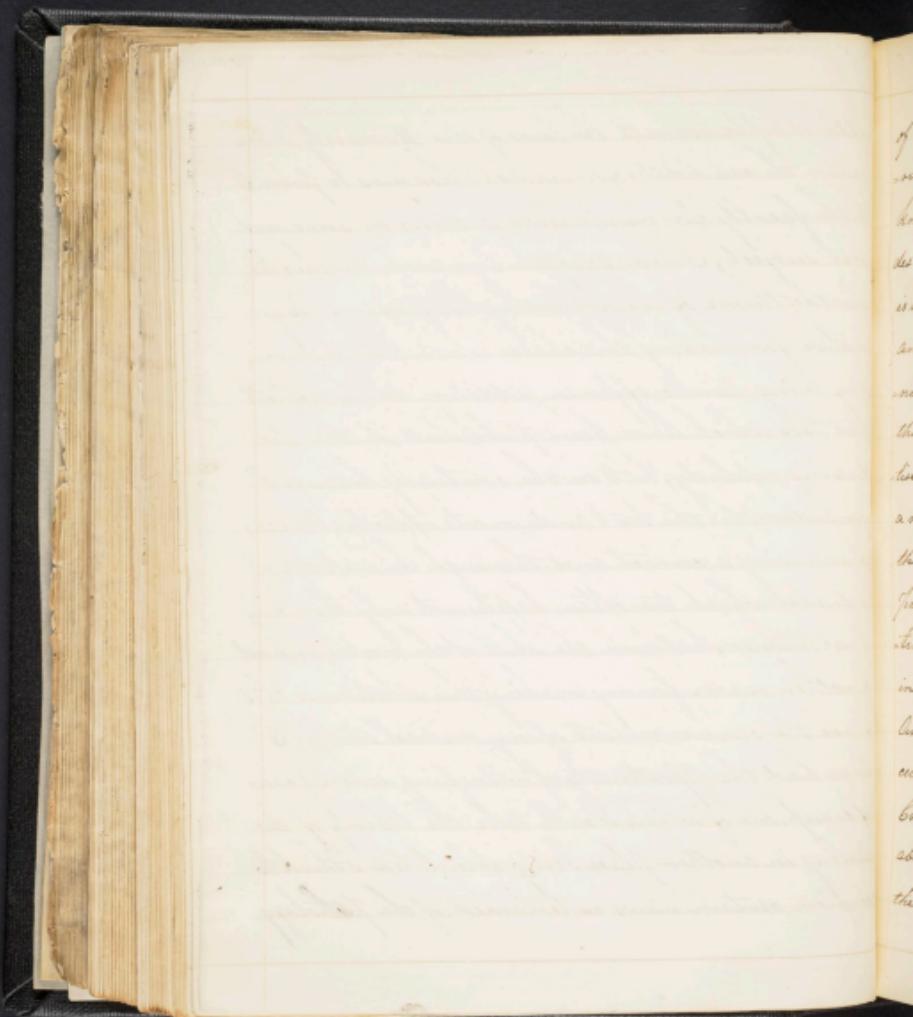
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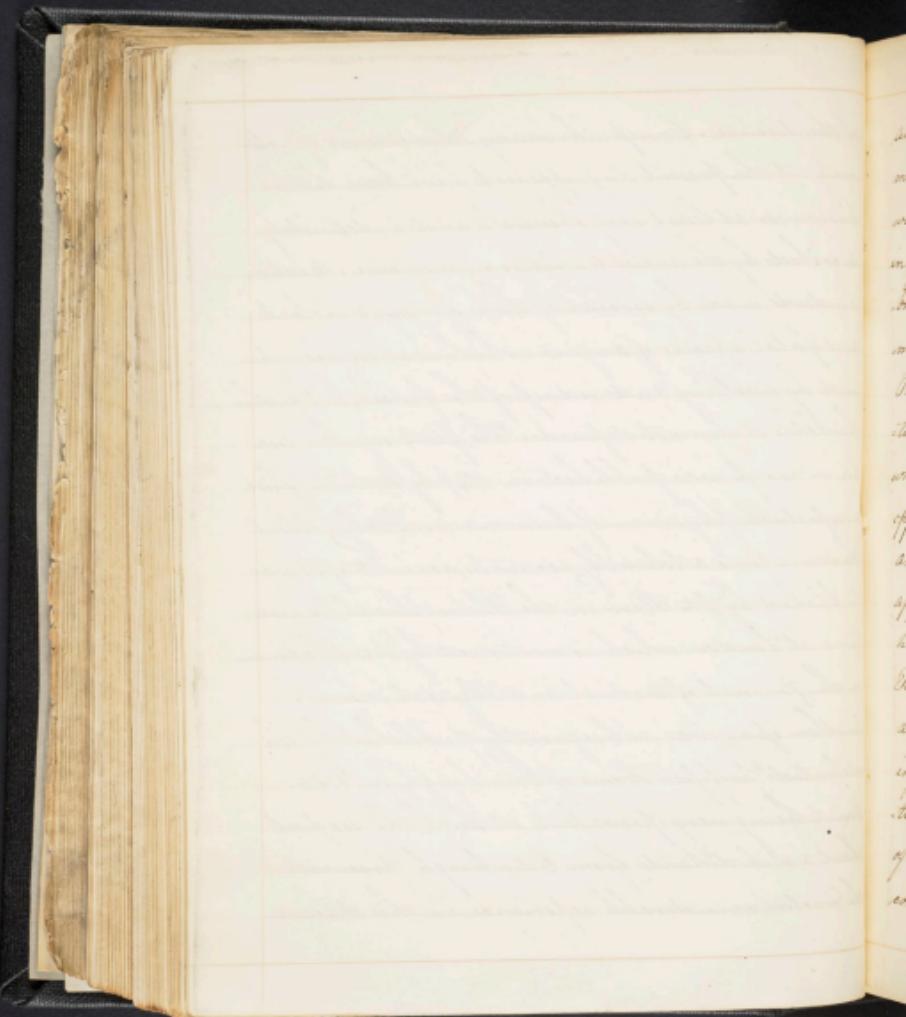


In compliance with the laws of this University which require the candidates for medical honours to present to the faculty for examination a thesis on some medical subject, I have selected Cynanche Foetida for the theme of the following brief essay. My motive for making this choice is not that I have anything new to offer in addition to the excellent treatises which have been published on this distressing malady, but on the contrary because I consider this the best and most effectual means of acquiring a correct and thorough knowledge of a disease which too often befores not only the young practitioner, but even the skill of the most experienced. Another reason for my making this selection is that since the commencement of my medical studies I have had the opportunity of witnessing several cases of croup, one of which I will take the liberty of detailing in another place being calculated I think to confirm certain views entertained of the pathology.

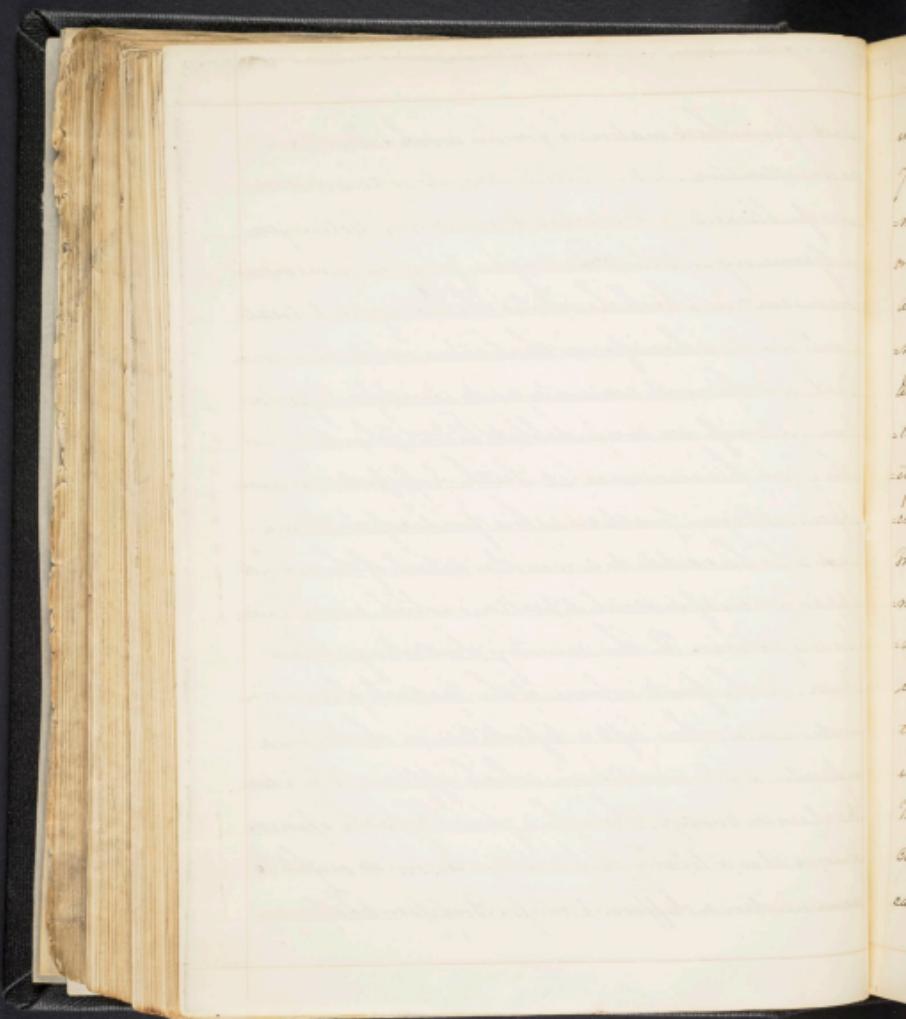


of the disease. Croup, like many other diseases of note  
sity at the present day, appears to have been little  
known, or at least very obscurely and indefinitely  
described by the ancient writers on medicine. Mention  
is indeed made by several of them of a most violent  
and fatal species of angina which was unaccompan-  
ied by swelling and redness of the fauces, but further  
than this it was not defined. The first regular trea-  
tise on croup was published in 1749 by Martin Ghisi  
a respectable physician of Cremona in Italy. About  
the same time a tolerably accurate account of it was  
published by Dr. Starr in the Philosophical Transac-  
tions at London which is mentioned by Dr. Chapman  
in the Journal of Medical and Physical Sciences.

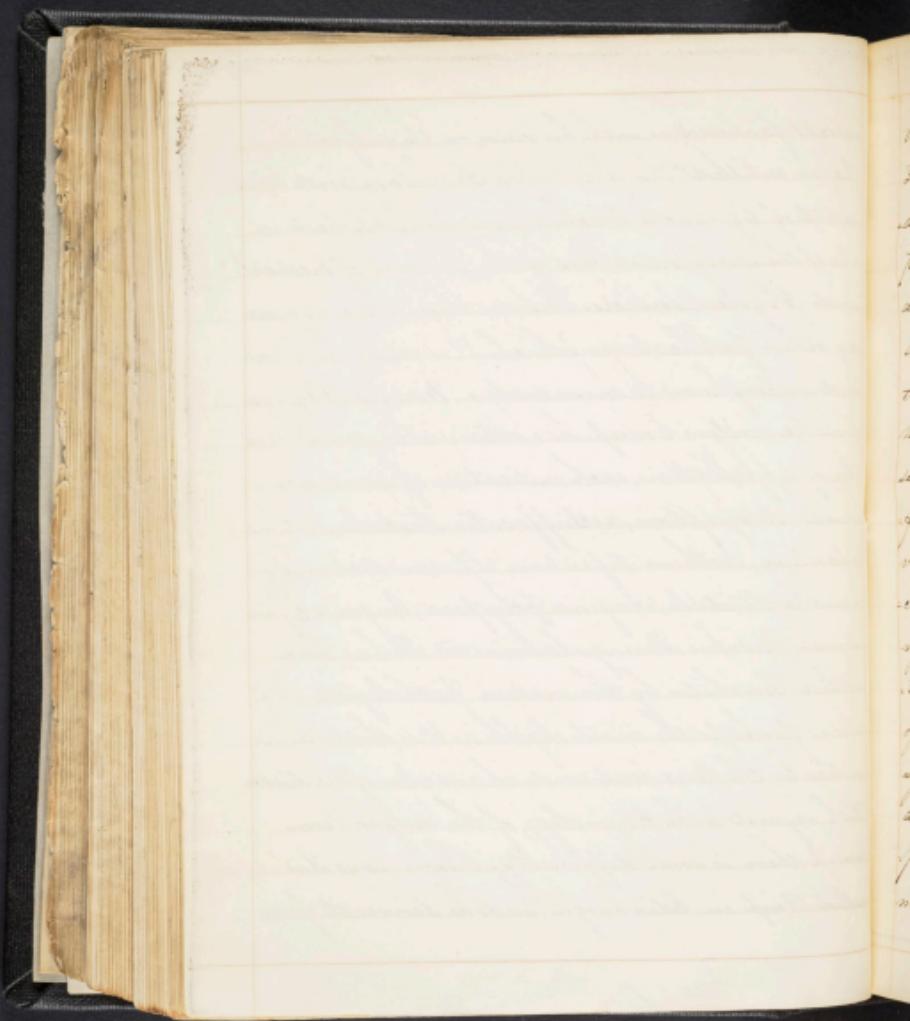
Another essay was subsequently published by the  
celebrated Professor Home of Edinburgh in 1765.  
Croup being very prevalent at Leith the seaport  
about 2 miles distant from Edinburgh procured  
the Doctor considerable experience in this disease



and furnished materials for his work. In 1775 a more extensive and detailed account of this disease was published by Frederick Michaelis of Gottingen in Germany entitled "De croupia polypora sive membranacea" in which he relates the history and treatment of a number of cases that came under his notice. But for the most accurate and scientific description on Croup we are indebted to Dr. John Cheyne who from his residence at Leith possessed the same opportunities in practice as his predecessor Home and who has added a minute detail of the morbid appearances of several dissections which came under his inspection. In this country the distinguished Rush, in the first volume of the Medical Observations and Inquiries has left a dissertation on the Asthma infantum spasmodicum which appears to be identical with Croup, though agreeably to the opinion of some it is a totally distinct disease and ought to come under a different class. Professor Chapman

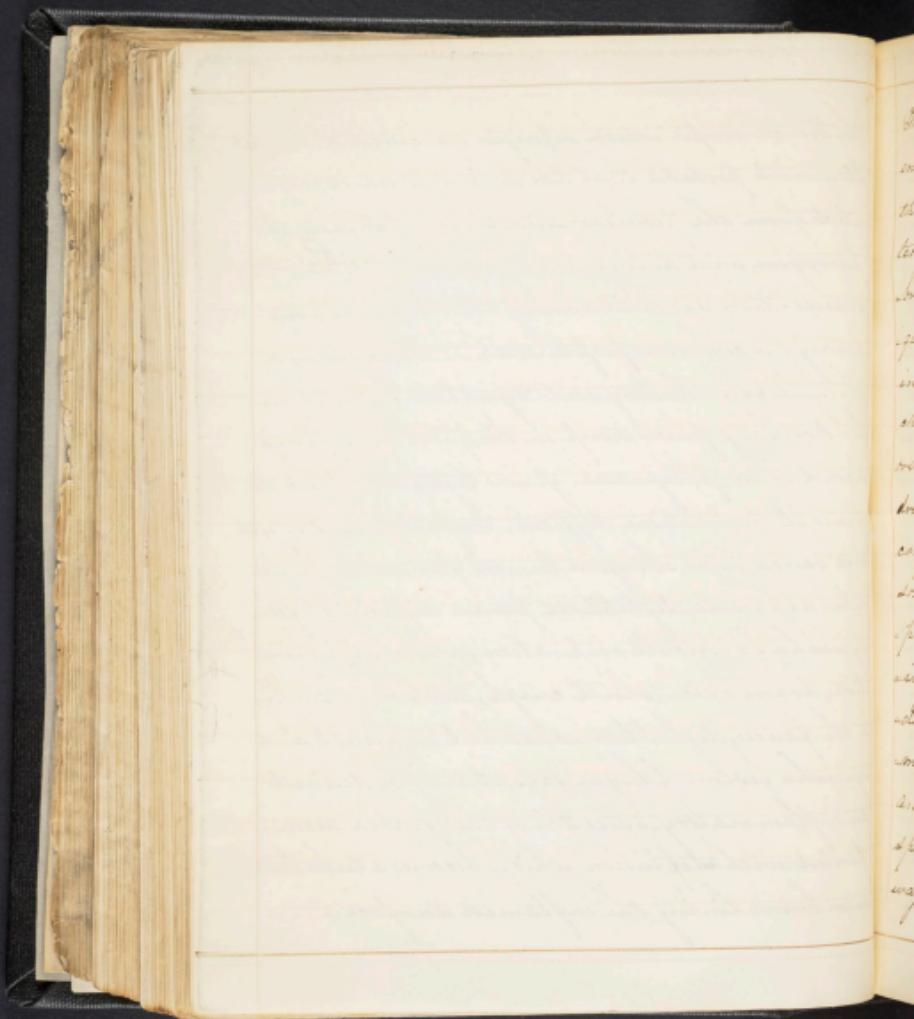


in 1821 favoured us with his views on the subject in a paper entitled "Thoughts on the Pathology and treatment of Cynanche Trachealis" and published in one of the early numbers of the Journal of medical and physical sciences. Besides these there are many other publications which it would be tedious and superfluous to enumerate. Names. By systematic writers Croup has obtained a great variety of appellations, each indicative of some concomitant symptom, as Suffocatio Stridula, Asthma infantum, Asthma infantum spasmaticum, Cynanche Stridula, Angina polyposa, Angina Epidemica, Morbus Strangulatiorius &c. It has been called Tracheitis by the modern pathologists, and this is perhaps the most eligible as it is short and indicates the true seat and character of the disease. With regard to the Etymology of the vulgar term Croup there is some difficulty. Chyne says it is called Roup in Edinburgh, and he derives it from

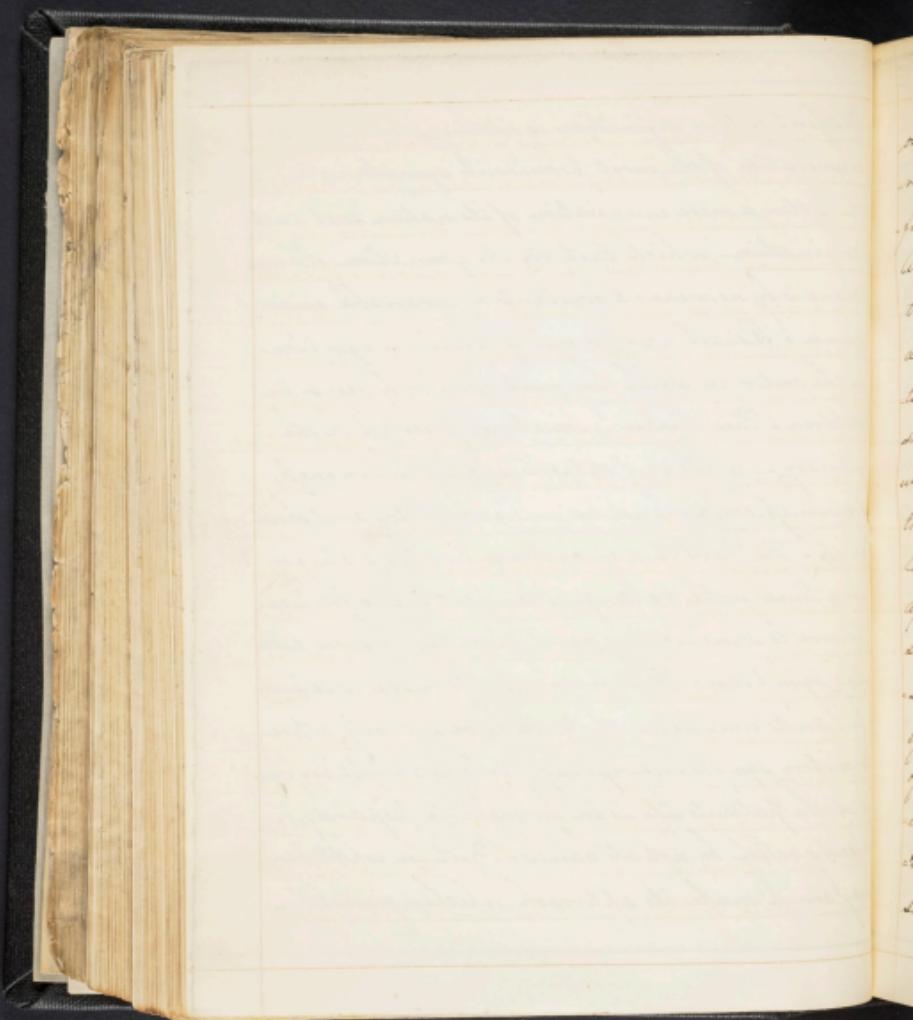


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the French name which signifies the mucus of the nose.  
It is most probable that like hooping cough it originated from the peculiar sound accompanying the paroxysm and distinguishing it from all other diseases. There are besides many other names in use among the common people such as Hives, rising of the lightsore. History and Symptoms. Cullen in his Nosology places Croup in the first class Pyrexia second order phlegmasia. Genus Cynanche and defines it respiration difficult, inspiration stridulent vox rauca, lufte clangosa, tumore sere mella in larynx apparente, deglutitione parum difficult et non synoeca. Difficult respiration, whining inspiration, hoarse voice, shrill cough, little or no swelling of the larynx, deglutition somewhat difficult and synoeca given. Chyne says it may be defined an inflammatory affection of the trachea accompanied with an effusion which becomes a tubular membrane lining the inflamed surface.

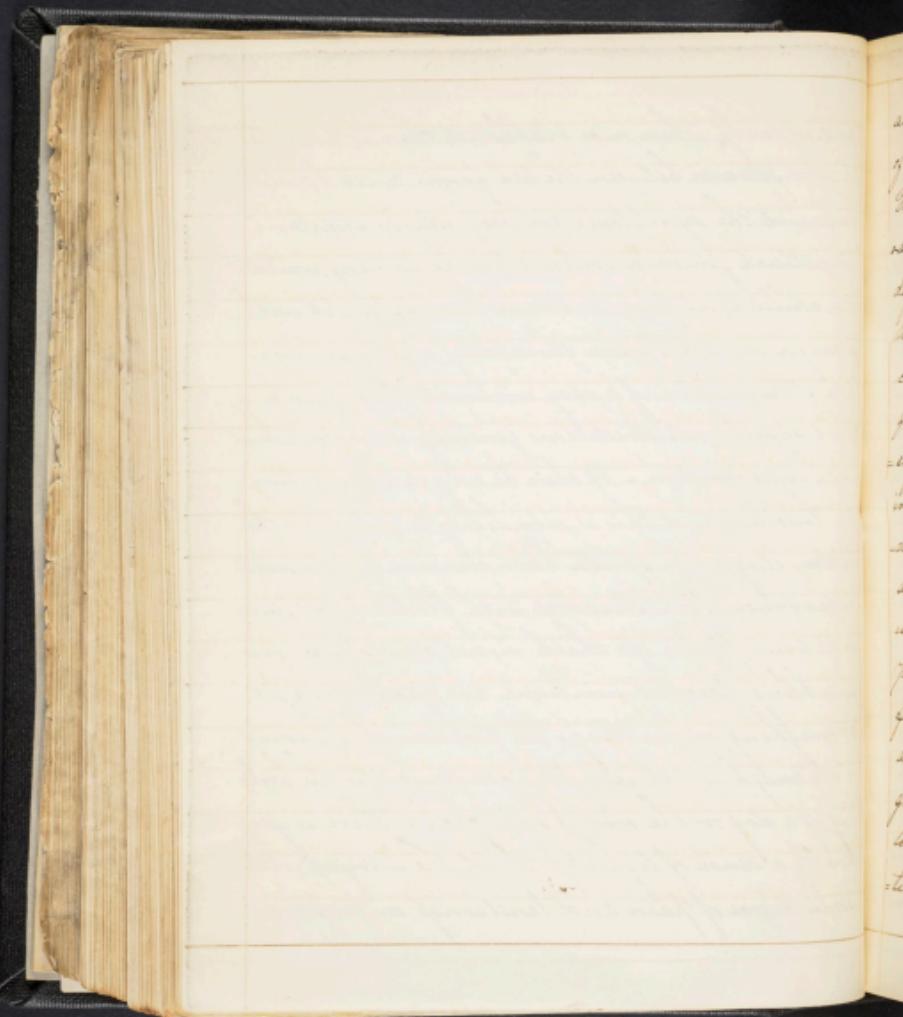


The first of these definitions is nothing more than an enumeration of the most prominent symptoms; and the latter, a mere enunciation of its nature, seal and termination, which last viz. the formation of a membrane is by no means a constant or inevitable consequence. I shall now proceed to detail the symptoms in the order in which they most commonly occur in children. This disease is sometimes preceded by the ordinary symptoms of catarrh such as hoarseness, drowsiness, coryza and an unusually dry and shrill cough. The patient may continue in this state for some time until a change of temperature or fresh exposure to some exciting cause gives rise to more alarming symptoms. But frequently its onset is so sudden and unexpected that we have scarcely a premonitory symptom (excepting perhaps a slight dyspnoea) and the patient's life is in immediate jeopardy, if speedy relief be not at hand. But in whatever way cough makes its approach, whether gradually,



or suddenly when once established there is no material difference between the two forms, and henceforward the symptoms are very nearly similar.

An attack generally comes on in the evening whilst the child is at play or awakes him at night with a cough and dyspnoea threatening speedy suffocation. The cough is of a very unusual character being short shrill and stridulous generally unaccompanied with expectoration. If there be any discharge from the trachea, and this is more likely to occur in the latter stages, the sputa have commonly a purulent appearance often streaked with florid blood, and sometimes flakes of a thick viscid consistency resembling pieces of membrane are ejected in a fit of coughing or vomiting. The peculiar sharp sound of the cough is not unaptly compared to the barking of a dog or the crowing of a cock. There is generally a sense of tightness about the larynx with some degree of pain and tenderness on pressure,



although on examination we can detect but few marks  
of inflammation in the fauces or neighbouring parts.  
The tonsils, would be sore often slightly reddened but  
rarely swollen. The ~~esophagus~~ is seldom affected or  
dilatation impeded. The voice at first is hoarse and  
has a shrill singing sound resembling that of the  
cough, in the latter stages it is nearly and often  
quite suspended. There is great difficulty of breath-  
ing, which, as the disease advances, rapidly increases  
inasmuch that the muscles of the abdomen and shoul-  
ders are called into violent action. The inspirations  
are long and laborious accompanied with a peculiar  
whizzing sound resembling that occasioned by the  
piston of an air-pump. The face which is at first  
flushed becomes afterwards purple or livid, the eyes  
are injected and the countenance expressive of  
great anxiety and wretchedness. In addition to the  
local symptoms, as in other Phlegmasia, the consti-  
tution becomes more or less sympathetically affected.



the pulse is frequent, strong, and hard, the surface  
dry and parched,<sup>with</sup> much thirst, and the tongue is cov-  
ered with a white fur; the child often complains of  
headache is very restless and is constantly changing  
his position but without relief; it cries and yells  
and is excessively uneasy without suffering any pos-  
itive pain, the urine is scanty and colourless except  
when a crisis is about to take place, when it becomes  
turbid and more copious, the bowels are generally  
constipated and sometimes flatulent. If no remedial effort  
be made all the foregoing symptoms are aggravated.  
The respiration is more hurried and laborious, the  
pulse becomes weak and fluttering, there is a viol-  
ent and even audible palpitation of the heart, the  
surface is cold and covered with a clammy sweat,  
the eyes appear glazed, the mouth parched, the face  
puts on a livid and ghastly appearance, the extrem-  
ities are cold, the child becomes stupid and insen-  
sible, delirium and coma supervene, convulsions

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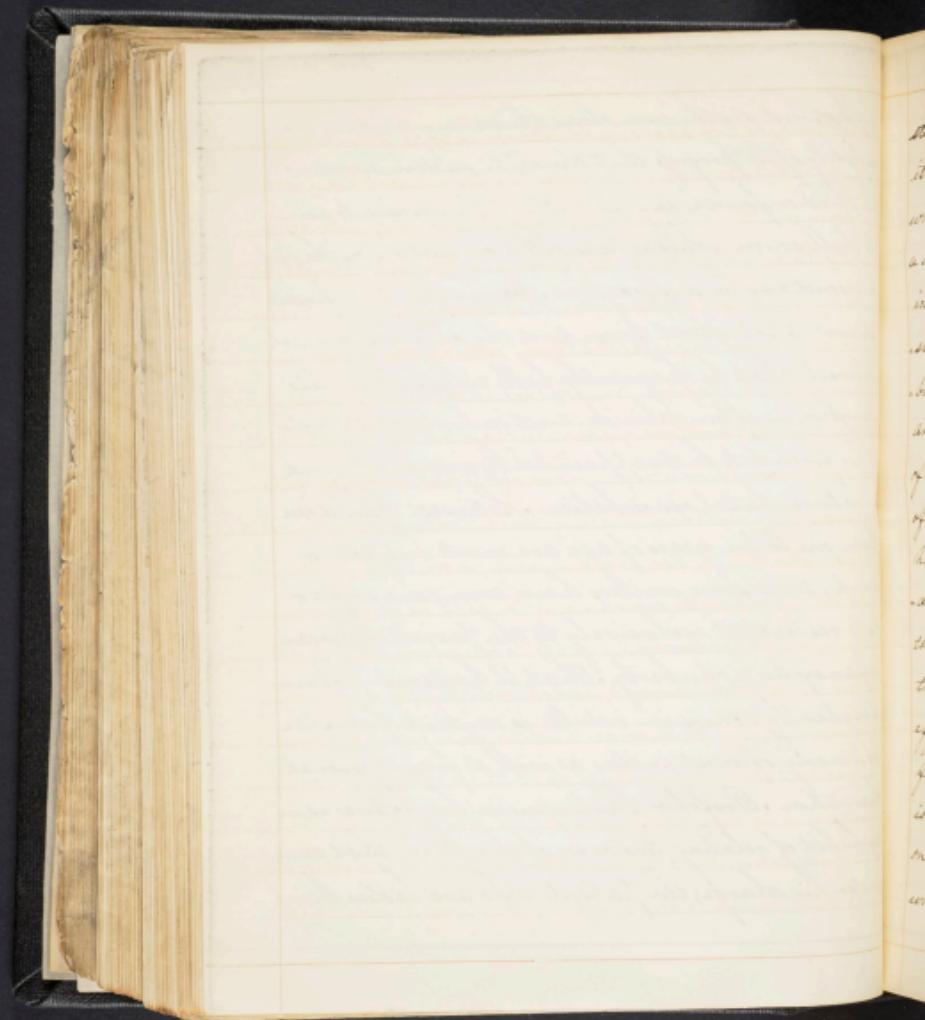
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follow, and death soon closes the scene. Such is the rapidity of its progress that the child seldom survives the third or fourth day, admitting the disease to run its full course, whereas he is often carried off on the first or second day by suffocation. Occasionally this disease assumes a remittent form, and the child is so much relieved that he frequently falls asleep, but this remission is often delusive, and only raises the hopes of his friends to be disappointed by a renewed and sometimes fatal exacerbation.

**Causes.** Children from one to ten years of age are most subject to convulsions, and some writers have even gone so far as to restrict it exclusively to the period between infancy and puberty. That it however not unfrequently occurs in adults is evident from the testimony of most writers as well as from personal observation. Professor Chapman in his lectures is in the habit of relating two cases of this kind that came under his charge; the patients who are ladies being



still subject to occasional recurrences; he has also seen it in infants within the month. Some writers, among whom is Dr. W. Philip makes the croup of adults, a distinct variety of the disease. The comparative immunity of adults from this disease is very plausibly referred to an alteration which the mucous membrane of the trachea undergoes at the age of puberty and an acquisition of tone, indicated by the change of voice which renders this membrane more capable of resisting with impunity the attacks of morbid agents hence debility of the trachea may be considered the predisposing cause to croup. Michaelis is of opinion that adults are as liable to it as children, but that they have the power of expectorating the lymphatic effusion before it becomes a solid membrane. Some families are more subject to it than others, hence it is said to be hereditary, and this also probably depends on some peculiar conformation of the trachea. Children who have experienced an attack of croup are liable

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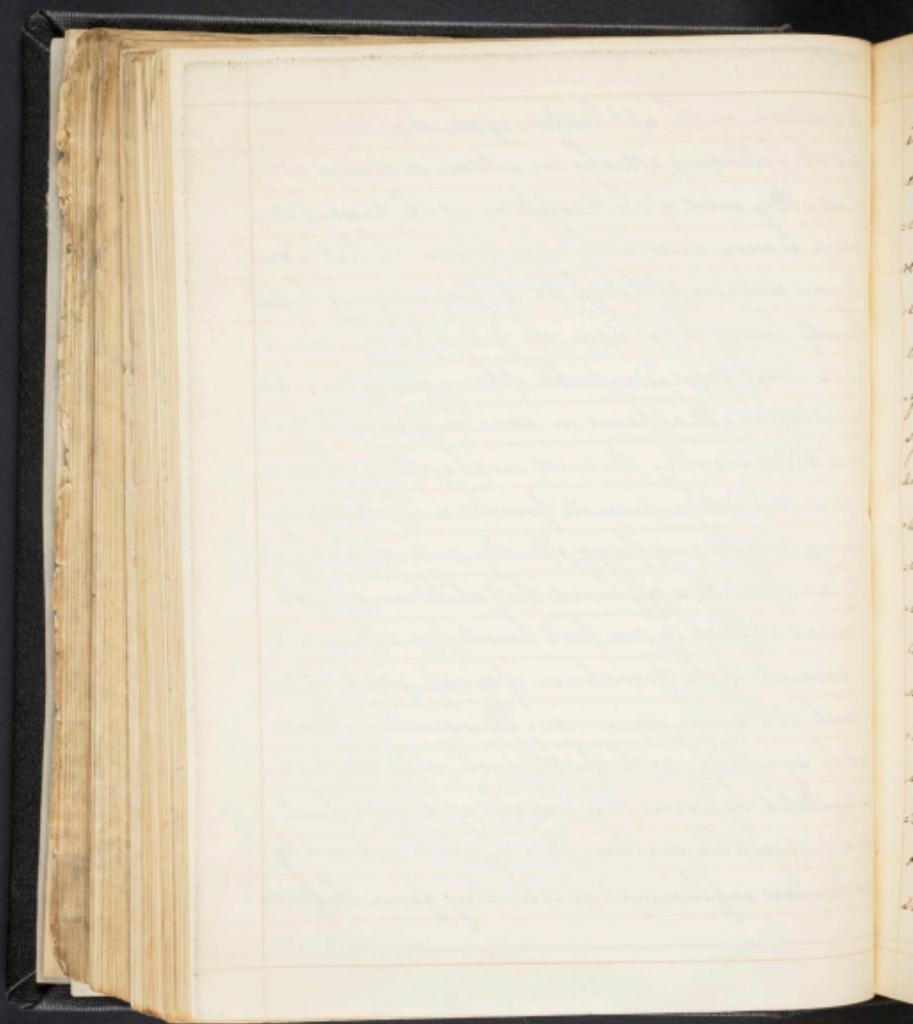
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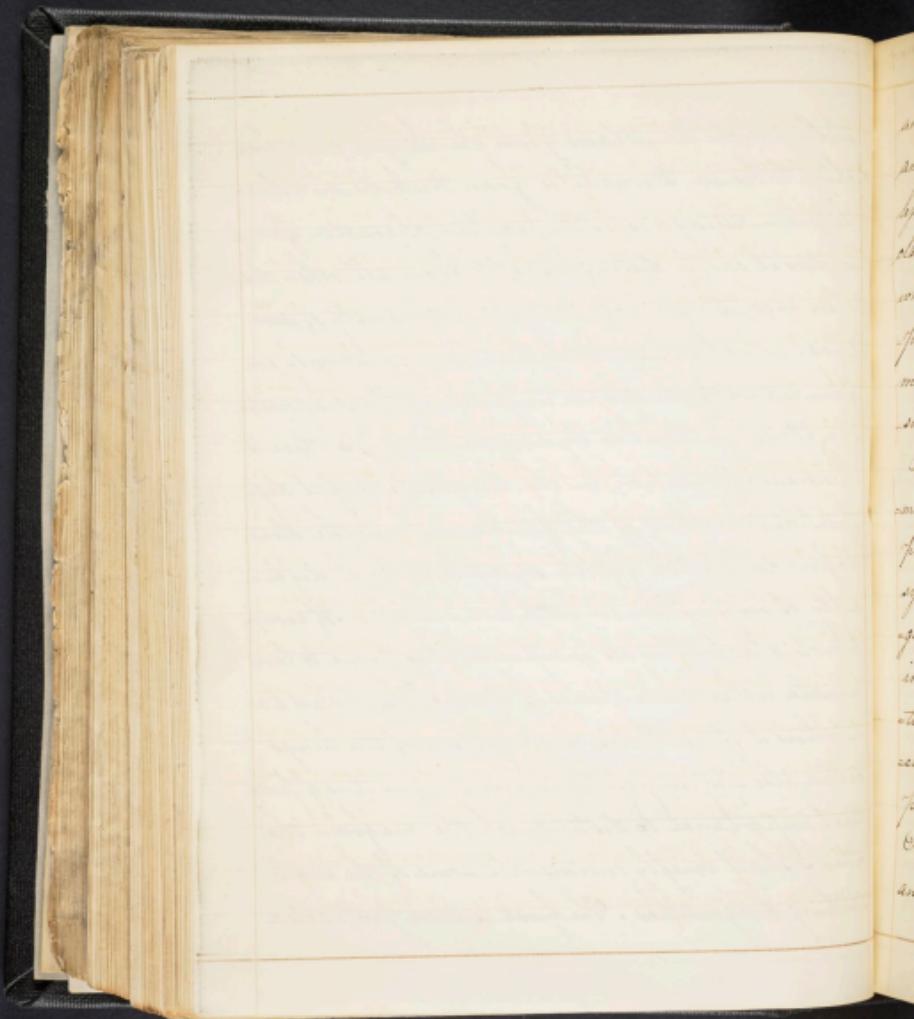
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to a return on the application of the slightest cause  
but the following attacks are seldom so violent as the  
first. By most of the profession at the present day  
croup is very deservedly erased from the list of con-  
tagious diseases, although Dr G. Gregory says he feels  
himself bound to set upon the principle that croup  
in its worst form is capable of being communicated  
by contagion. It appears in some instances to pre-  
-vail epidemically. The most usual exciting causes are  
cold, and moisture, hence its prevalence in winter and  
spring, in cold and foggy climates, and especially on  
the sea shore. It is affirmed that children cannot  
be reared at Leith (a sea port here before alluded to)  
on account of the prevalence of croup, while at Edin-  
burgh it is a rare occurrence. It is sometimes pro-  
duced by sympathy with the stomach, when this organ  
is irritated by worms, or is overcharged with foul  
and indigestible matters. It may also be induced by  
continuous inflammation extending from the fauces



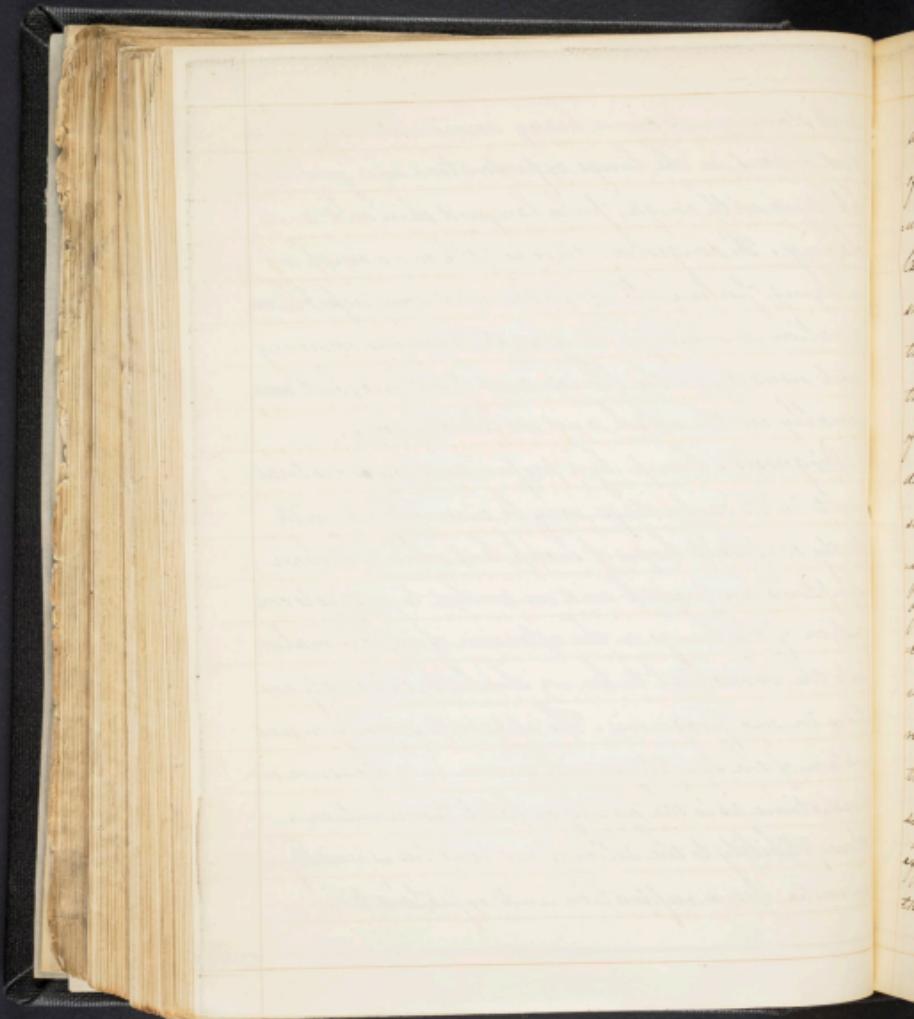
in *Cynanche Poirillaris* from the larynx and bronchial tubes in *Bromelitis* from *Rubiola* and *Sear Latina*. — Diagnosis. The peculiar character of my disease except *Cynanche Laryngea* a variety of sore throat which until lately has been uniformly confounded with the disease in question. The diagnostic symptoms are, that in *Cynanche Laryngea* there is an uneasy sensation in the larynx, painful deglutition, swelling of the fauces without the stridulous cough the rebsile symptoms and difficulty of respiration in both are similar. If you can't be not checked in its incipient stage it is prone to terminate either in a species of *Bromelitis* called *barthirus suppurations*, or congestion of the lungs called also apoplexy of the lungs, and as it is of great importance to distinguish the one from the other I shall briefly enumerate some of the most striking diagnostics. The first is more protacted



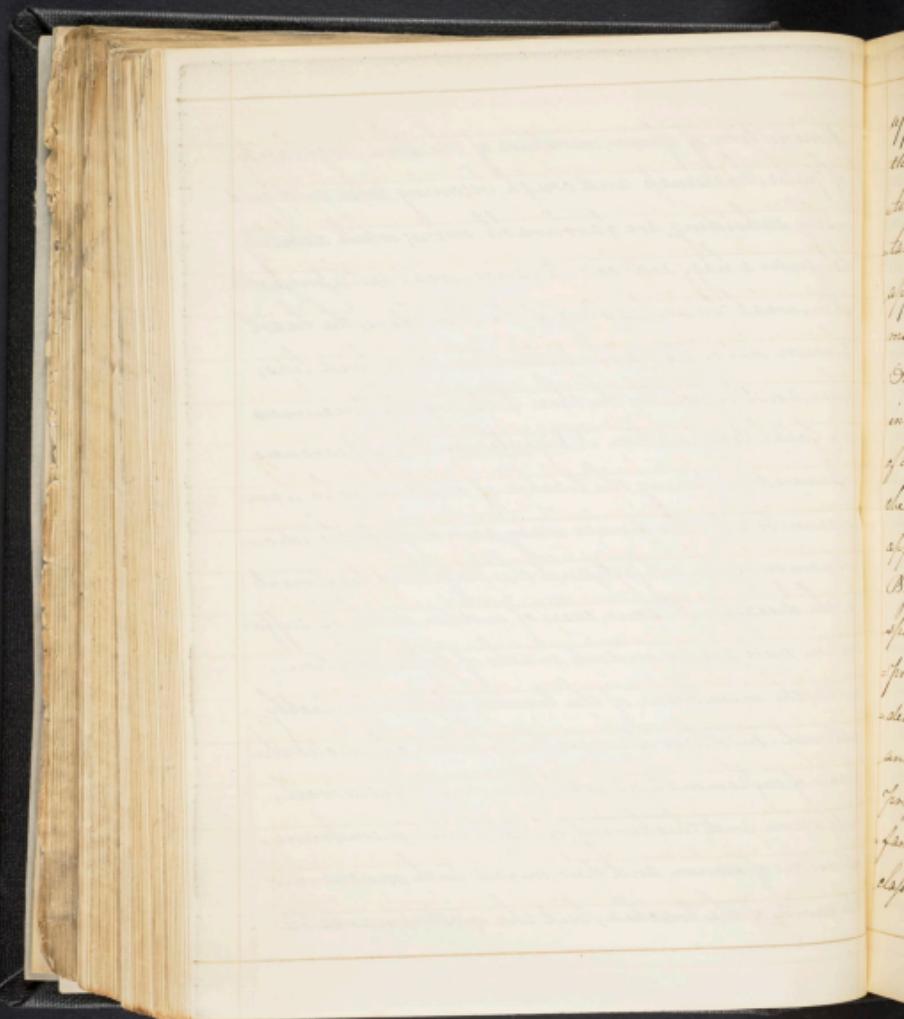
and shiver in its course, heavy accumulations of phlegm and mucus in the lungs expectoration in a greater or less degree with cough, pulse languid skin cold and clammy. By congestion there is little or no cough no wheezing, pulse full irregular and compressible, respiration hurried panting and laborious, occurring most usually in the florid and plethoric, but occasionally in the weak and valetudinary. -

Prognosis. Croup by a proper and vigorous treatment in its early stage may be encountered with pretty confident hopes of success, but when the above symptoms are present and we are led to suspect congestion of the lungs, or the extension of inflammation into the bronchial tubes, we should be extremely cautious in our prognosis. The apparent severity or moderation of the symptoms will govern in a measure our predictions as to the happy or fatal termination.

Susceptibility to the action of our remedies especially an emetic, free respiration and expectoration

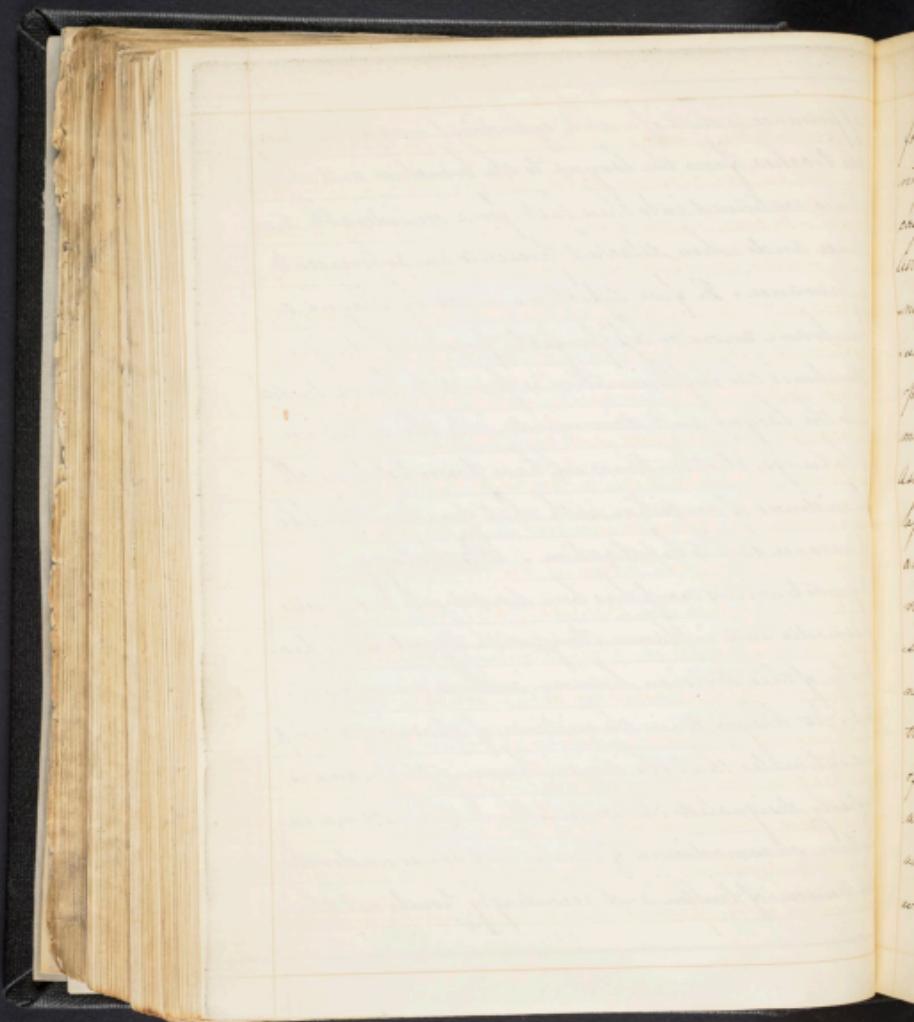


diminution of fever, moisture of the skin, regularity of pulse, hoarseness and cough becoming loose and gradually subsiding are favourable omens; while debility, languor, a haggard countenance, great restlessness, cold skin, weak pulse, drawing of the shoulders, the heart thrown out of its natural situation, and livid lips; these, and especially the three last, are the precursors of a fatal termination. Dissections. The appearances discovered in opening the trachea of children who have succumbed to this disease vary according to the idiosyncrasy of the subject, and the stage and treatment of the disease. In some cases of sudden death by suffocation, there are no evident marks of inflammation, while the membrane of the trachea appears perfectly natural. In others of a more protracted character the traces of inflammation are plain and unequivocal, suffusion and thickening of the lining membrane, effusions of serum and pus, mixed with mucus into the cavity of the trachea, but the most remarkable



appearance is that of a white cylindrical membrane lining the trachea from the larynx to the bronchia and sometimes continued into these last for a considerable distance and when detached presents an arborescent appearance. In five descriptions made by Cheyne a membrane more or less perfect presented itself. Sometimes the inflammation is found to have extended into the larynx and downwards into the substance of the lungs, at other times we have presented to us all the evidences of congestion with that peculiar brown-like appearance called hepatisation.

Pathology.  
By most writers croup has been divided into two species, spasmodic and inflammatory; with regard to the propriety of this division, however authors are much divided. Dr Cheyne denies the existence of spasmodic cough and intimates that the disease bearing this name is properly designated the acute asthma (the asthma infantum spasmodicum of Rush) and comes under the class Neuroses of Cullen and accordingly points out the



following diagnosis.— In croup the cough is constantly ringing in our ears; in acute asthma there is little or no cough.— In croup there is seldom any remission; in acute asthma the remission is one of the most striking phenomena of the disease and it is attended with some excretion as belching, vomiting or purging. In croup the pulse is strong, the urine high coloured, the fever is much greater, the voice is sharp and small; in acute asthma the pulse though perhaps equally quick is less full, the urine is less pust and the voice croaking and deep. Professor Dewees in his elaborate and very valuable work on the diseases of children express himself on this point in the following words: "We have never witnessed spasmodic croup, we do not believe in the presence of spasm in either of the two first stages of this complaint, it may take place says he and probably does sometimes in the last." Dr George Gregory admits the existence of the spasmodic kind either distinct which he calls spurious croup, and which he thinks

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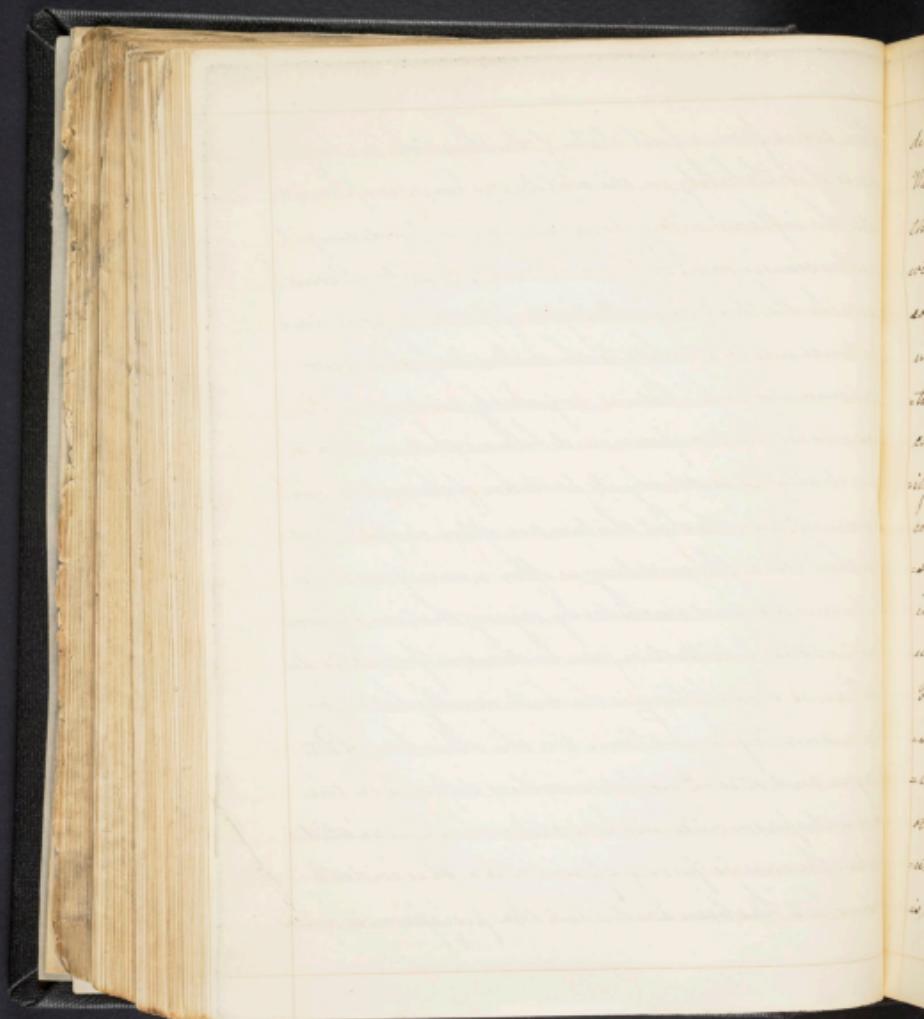
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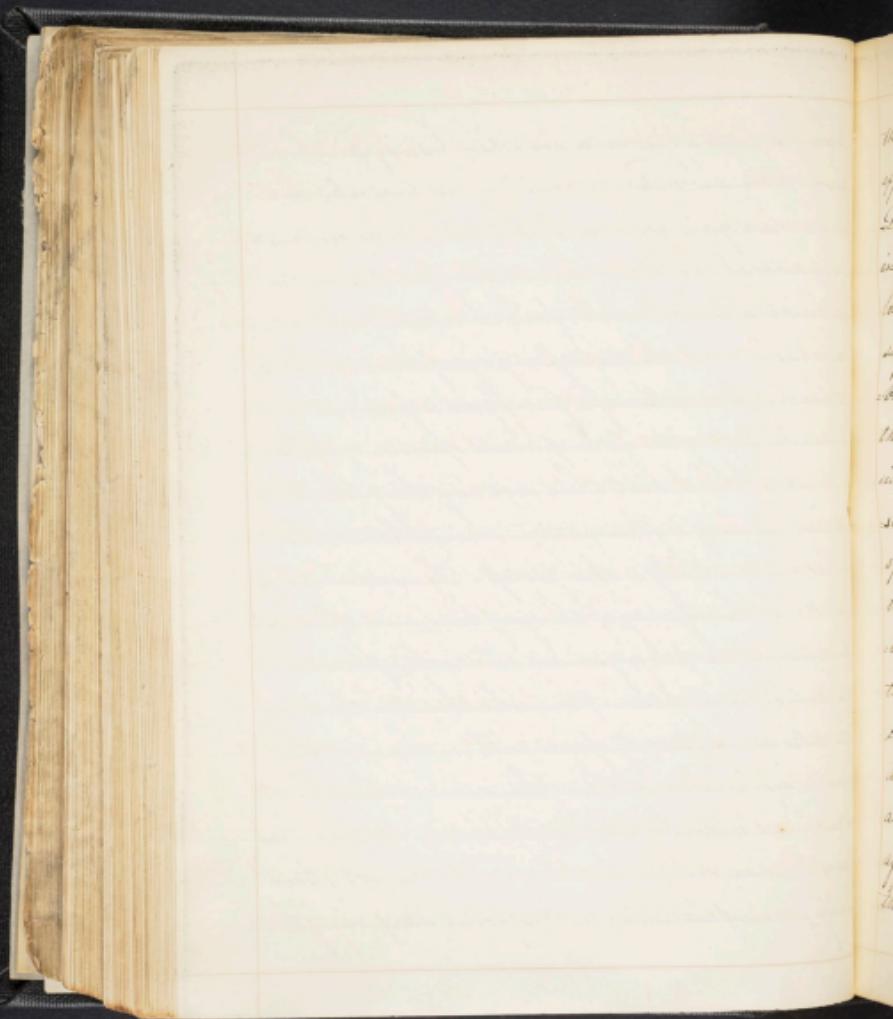
often arises from a foul state of the stomach or a high degree of irritability in the child's system, or complicated with the inflammatory species, and either producing it or supervening on it; but from several considerations he concludes, that no great degree of pathological importance is to be attached to the distinction. Professor Chapman also in his lectures very clearly and explicitly distinguishes the two species, and believes that in all cases where it attacks suddenly it partakes of the nature of spasm, but admits that the two are often complicated and that the inflammatory is often a consequence of the spasmodic, and concludes by saying that no important practical distinction can be drawn from this distinction as blood letting is the best remedy both for spasm and inflammation. On the other hand Dr Cheyne and other European writers depend on the use of antispasmodics such as castor-must, acapatisa &c when the case is purely spasmodic. This evident from what has been said, that the professor is much



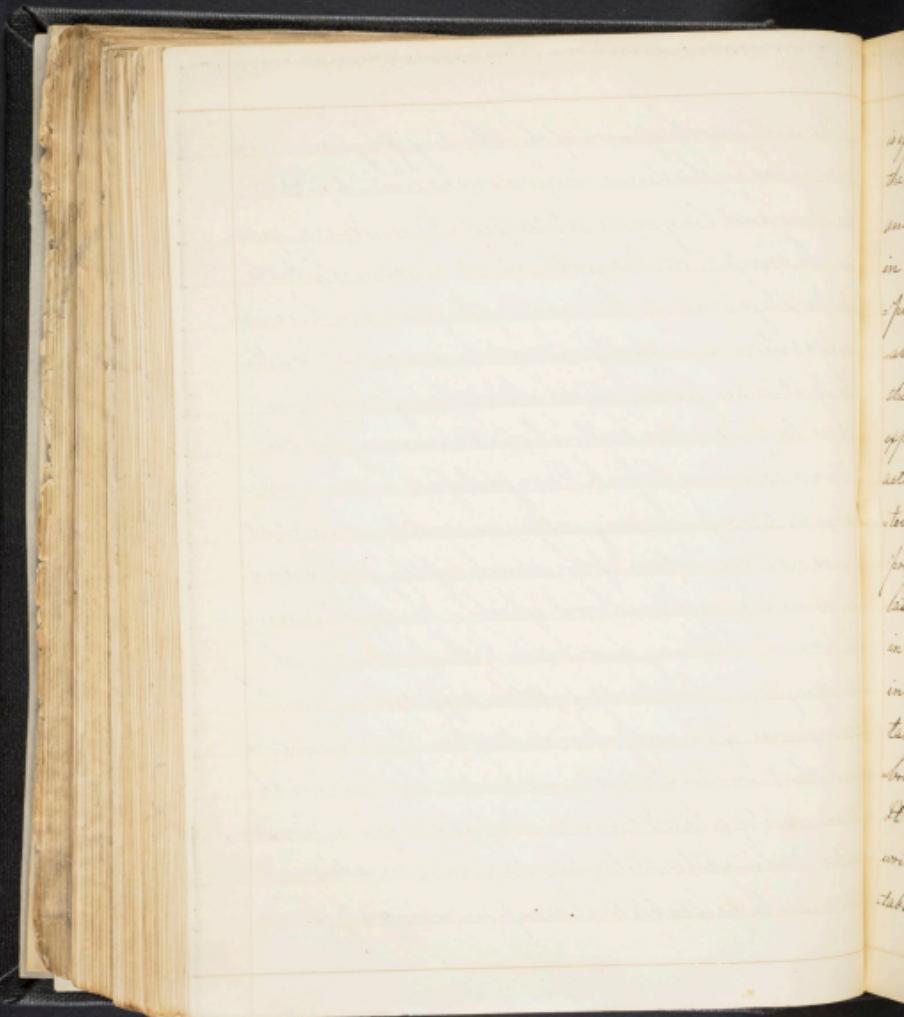
divided with regard to the pathology, of this disease.  
Were I to hazard an opinion upon this point from  
the few cases which I have had an opportunity of  
witnessing, it would be in concurrence with those who  
consider it sometimes spasmodic. One case in particular  
which has so frequently come under my own observa-  
tion would seem to justify this opinion. The  
case to which I allude is a member of my father's fam-  
ily, who has been for a number of years, and still  
continues to be though less frequently subject to occa-  
sional attacks of this disease. It invariably comes on  
in the evening, with little or no premonition and often  
without any evident exposure to the exciting causes.  
The first evidence of its approach is a hoarseness re-  
sembling a common asthmatic which is very soon fol-  
lowed by the shrill stridulous cough, dyspnoea and the  
other symptoms already detailed, and in a few min-  
utes after the first symptom the paroxysm sometimes  
is completely formed. The remedies usually resorted to



toon its first appearance are ether, brandy &c which have often succeeded in arresting its progress, but when these fail recourse is had to the more certain & unequivocal remedies of blood letting, emetics or the warm bath which never fail in speedily relieving the spasm, and the distressing symptoms soon disappear. The duration of a paroxysm is from one to three hours. The supporters of the opposite opinion will hardly contend I think, that there was anything like the ordinary marks of inflammation manifested in this case as it is comparatively a slow proceps. The suddenness of the attack, the urgency of the symptoms, and the short duration of the paroxysm are all easily explained on the principle of spasm. Those who consider the croup of adults as a different species will in this way find a ready explanation of these phenomena. Others might be inclined to doubt whether the case in question was one of genuine croup, and whether it was not officially a case of asthma; on this point I can only observe

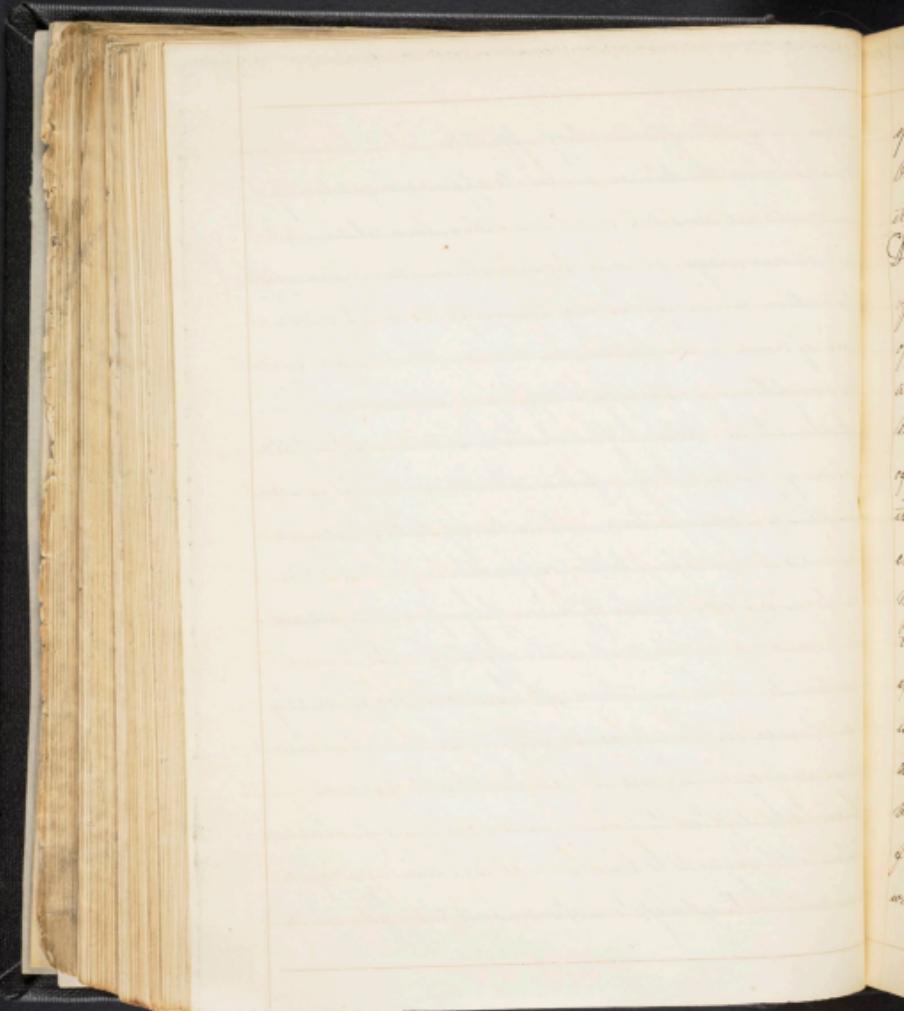


that such was the opinion of the attending physician whose  
experience in this disease is by no means limited - Dr.  
Dowes and Chyne admit the probable existence of spasm  
in the croup of children, but restrict it exclusively to the  
latter stage and the latter intimates that even here when  
suffocation is suddenly induced he is inclined to attri-  
bute it rather to mechanical obstruction of the larynx  
than to spasmodic constriction. On summing up the  
opinion of writers I think I am justified in the conclu-  
sion that croup in many instances consists in a violent  
spasmodic affection of the muscles of the glottis and  
those in the neighbourhood, which is the effect of irri-  
tation of the lining membrane of the trachea, that  
the symptoms threatening sudden suffocation are the  
consequence of the irregular contraction of these muscles  
and that in these cases our remedies should be such  
as are usually exhibited for the relief of spasm in similar  
affections! - Notwithstanding what has been advanced  
there can be no doubt that croup in a majority of cases



is essentially an inflammatory affection, and this is always the case when the disease makes its approach gradually and without sensible remission. Inflammation ends in various ways: it may terminate in resolution, suppuration or the effusion of lymph. The most favourable of these is resolution, and when this takes place the symptoms gradually disappear without much expectoration. When inflammation is more violent the action of the secretory vessels is altered and pus is secreted; this is a common termination owing to the peculiar proneness of this tissue to the suppurative process. The last termination viz. the effusion of lymph rarely occurs in the mucous tissues and is the effect of violent and incoordinate inflammation; it however occasionally takes place in croup constituting the tubular membrane so frequently mentioned in this disease.

It would be difficult to reconcile the contrary opinions of writers with regard to this membrane: Some very respectable authorities deny its existence, and they furnish their



opinion on the result of many post mortem examinations  
Others consider it so usual an occurrence as to make  
it constitute a part of their definition of the disease  
Dr Home's opinion, as to its nature was that it consisted  
of inspissated mucus, the thinner parts being carried  
off by expectoration, and the remainder being concreted  
and rendered solid by the passage of the air.—

Michaels has attempted to prove that it is of the nature  
of polypi and differs from them in nothing else, but  
its cylindrical form. It would be superfluous to  
enter into a discussion of the merits of these several  
hypotheses. It is now I believe universally conceded  
that the adventitious membrane does occasionally  
exist, that it is composed of coagulable lymph and  
is the effect of the adhesive stage of inflammation  
differing only in this respect, that the effused lymph  
becomes detached from the secreting surface and  
floats loose in the trachea. It is generally a tough,  
white, tenacious substance of more or less density and is



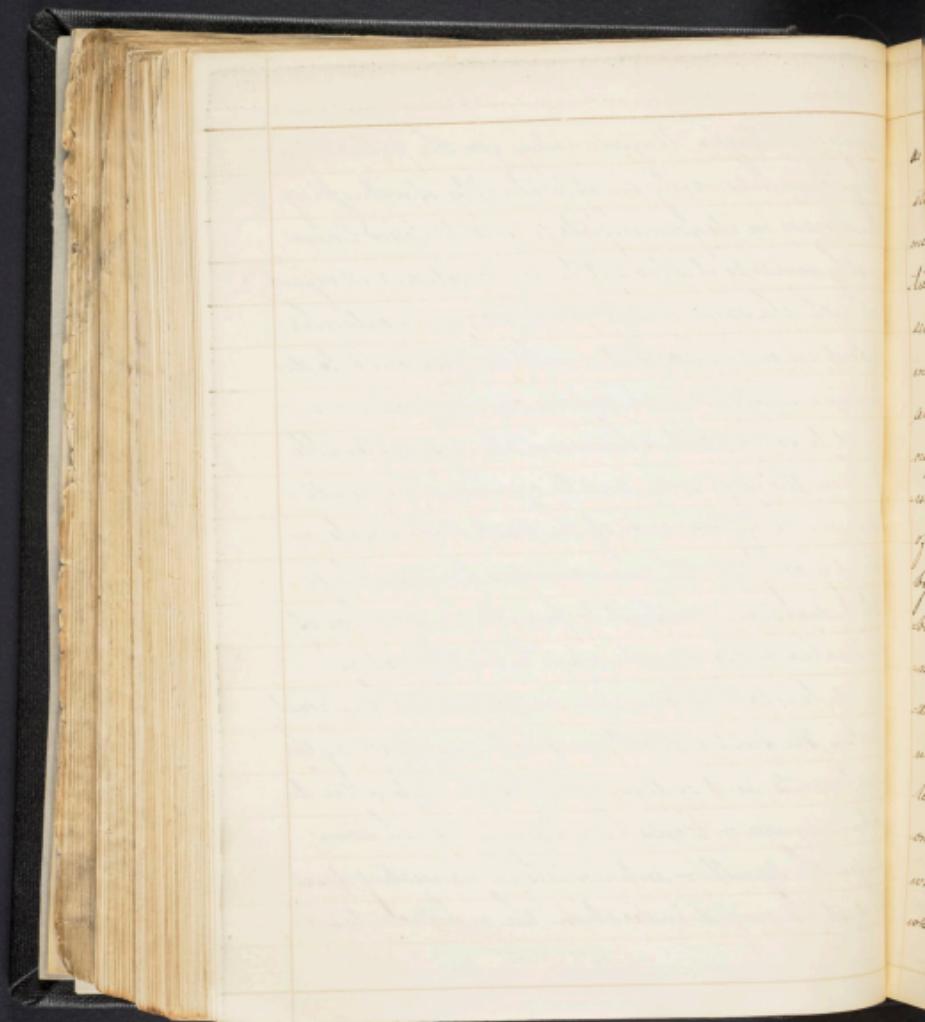
never organized, no vessels having ever been discovered in it. It is said to act sometimes like a valve in the larynx, mechanically obstructing respiration.

### Treatment

With a view to the treatment of croup it has been divided by Dr Cheyne into two stages, the incomplete or inflammatory in which the membrane is not yet formed; and the complete or purulent in which the membrane is completely formed. To these Dr Dovee has added a third viz. the forming stage in which the patient complains only of hoarseness, cough and the other symptoms of common catarrh. In the first or forming stage there is merely an irritation of the lining membrane of the trachea being the primary effect of cold or other exciting causes. In the second or inflammatory of Cheyne the irritation is succeeded by inflammation which if it be not speedily arrested will terminate in suppuration and the effusion of lymph constituting the third or



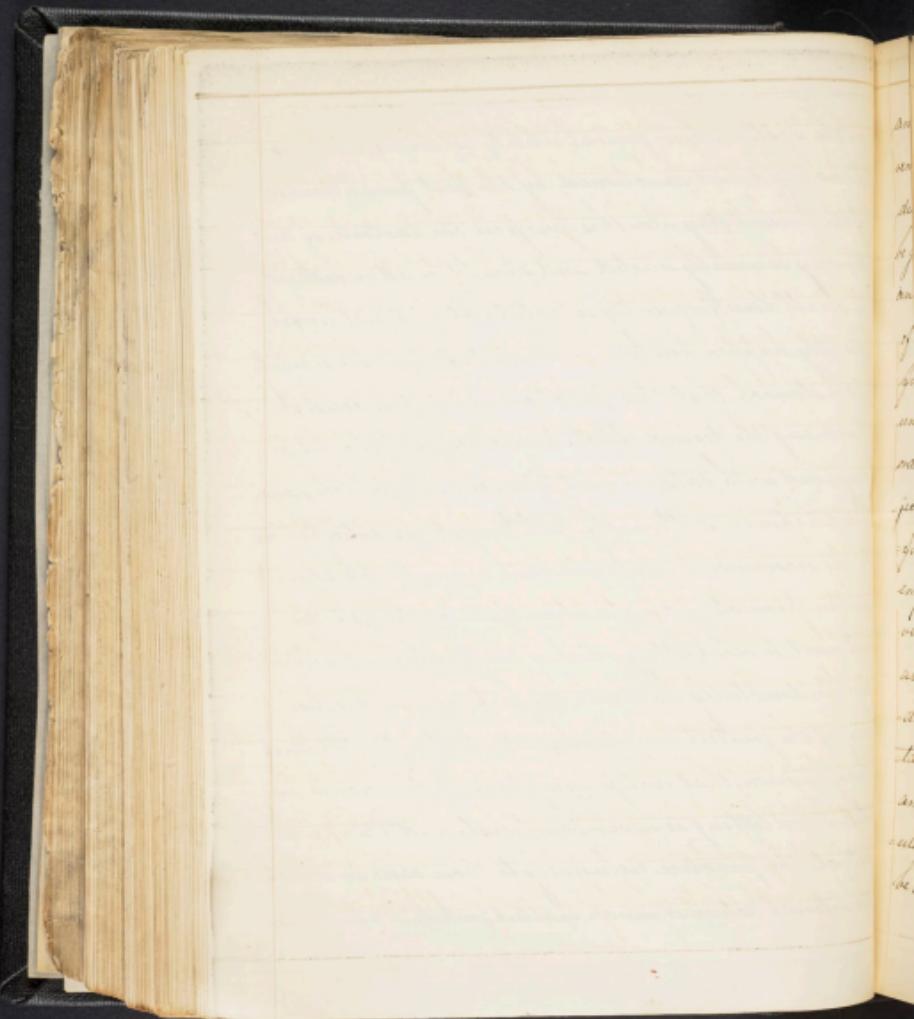
pungent stage. Unfortunately for the patient the physician has rarely an opportunity of witnessing the disease in its forming stage and professor Davies justly remarks it is too apt to be neglected, and regarded with the same indifference as common catarrhs; indeed in many cases it would be difficult to determine whether more serious consequences were about to follow; it is however always preferable to be on the safe side, and to commence immediately on the appearance of the least hoarseness or croaky cough with our remedies for its relief. The indications are first to promote the secretion of the trachea by exciting the vessels to healthy action - second, to establish counter irritation on the external parts. The first indication is best answered by the expectorants, and of these, perhaps the best is the decoction Seneca or Cox's holly syrup, though some prefer the digital or antimonials in nauseating doses. To meet the second indication the subgredients such



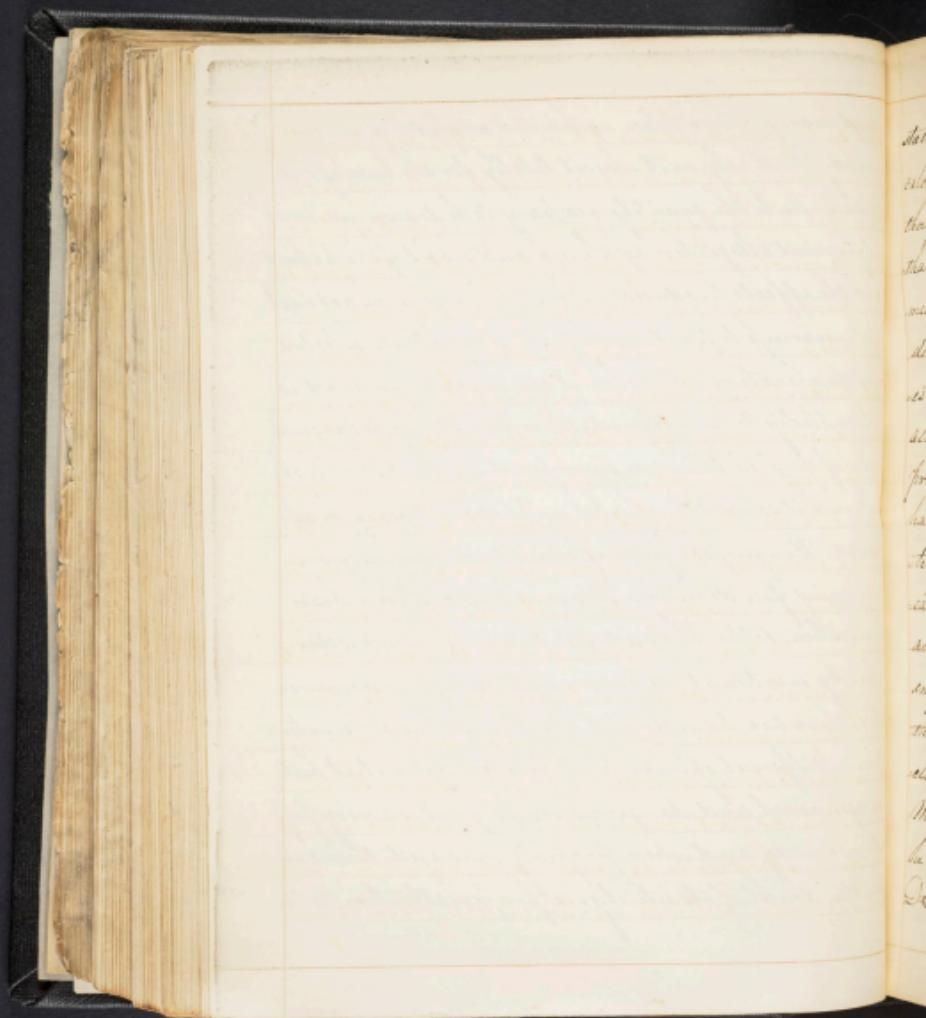
as steam terebinthine, Ammonia, mustard and other  
stimulating applications are employed. Some laxative  
medicine is often requisite to open the bowels. The pa-  
tient should be confined to a mucilaginous diet, and  
sidulously guard against exposure to cold. Our measures  
in the second or inflammatory stage must be more bold  
and decisive; for if it be suffered to advance further  
our chance of affording relief will be greatly dimin-  
ished. The indications here are to arrest the progress  
of the inflammation, to facilitate its termination  
by resolution, and restore the sympathetic distur-  
bance. It is the practice of most Physicians to com-  
mence with the exhibition of an emetic. The precise mo-  
dus operandi by which emetics prove serviceable is not  
well determined, and it was this circumstance that  
led Dr. Horne to object to their employment: but up-  
on whatever theory their operation is explained  
whether by expectoration or by counter irritation or  
what is more probable by their revolutionary effect



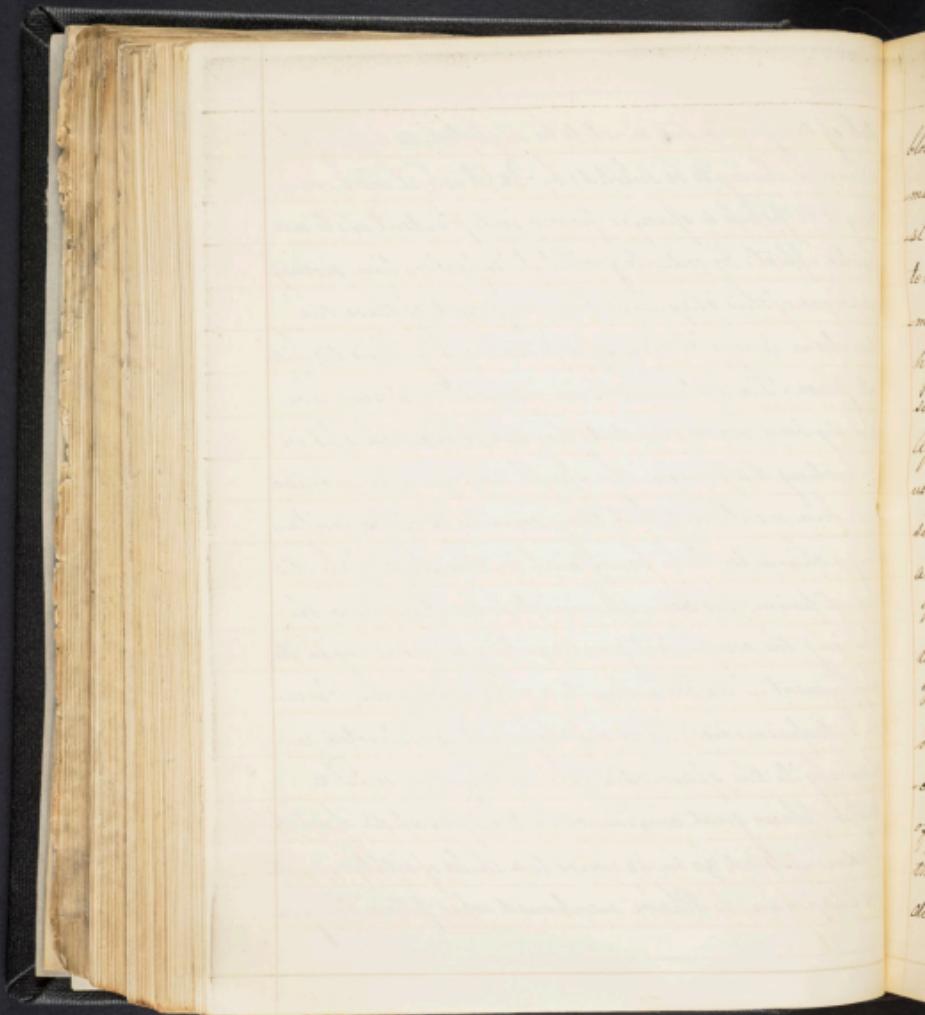
on the system, their general utility is universally acknowledged and sanctioned by the best practitioners of the present day. For this purpose the tartarite of ammonia is usually selected and should be administered in small doses frequently repeated. It will not unfrequently happen, however, on account of the insensibility of the stomach, that this practice will not succeed in producing the desired effect. In such cases it should be conjoined with Calomel and Specacuanha which says Dr Chapman will rarely fail to meet our anticipations he also recommends the warm bath as a valuable adjuvant in promoting the operation of the medicine. He next resort to blood letting which of all remedies in this disease undoubtedly holds the highest rank and is deserving of the greatest confidence, notwithstanding Dr Bush was of opinion, that unless symptoms of Pneumonia existed blood letting is never beneficial, and Dr Devees restricts the practice exclusively to those cases in which the arterial action is much impeded; while Dr Chapman



and many others place unlimited confidence in the remedy and rely on it almost totally for the cure of the disease. As to the quantity necessary to be drawn we must be governed altogether by the age and habit of the patient and the effects produced. The jugular vein on account of its nearness to the diseased part is sometimes selected for the operation and when it can be readily opened is undoubtedly to be preferred; the orifice should be large in order if possible to induce syncope which is a desirable object and it should be repeated until decided relief be obtained. The age of the patient should not deter us from employing free despatch. It is said that children bear venesection better than adults. In aid of the remedies already mentioned the warm bath is highly recommended, there are however not wanting others who entertain a different opinion and who consider it at best an equivocal and dangerous remedy. It is a very popular remedy and when properly managed there can be little doubt of its utility. A proper attention to the



state of the prima via is not to be neglected; as a purgative  
constituent is always to be selected; by Dr. Rush it was even  
thought to possess a specific power independent of its car-  
bonic acid effect. In order to facilitate expectoration several  
medicines of this class have been employed of these the  
decoction Seneca or hore syrup deservedly holds the high-  
est place. The Antimonials in nauseating doses have  
already been recommended, they are serviceable also in  
promoting diaphoresis; the squills and Gun ammoniac  
have been mentioned, but they seem to be of too irrita-  
ting a character to be beneficial in this stage of the dis-  
ease—Opium has been administered with a view of  
allaying the cough, but great caution is necessary in its  
employment.—We come now to a class of remedies I mean  
the Antispasmodics whose employment is restricted ex-  
clusively to the spasmodic form of the disease. Dr.  
Miller places great confidence in the Apafatida of which  
he administered 30 in 48 hours to a child of sixteen months  
Dr. Chapman as I have mentioned relies principally on



Blood-letting, for the relief both of the spasm and inflammation. We have now enumerated the principal general remedies deserving of notice. The local means now to be mentioned constitute an essential part of the treatment. Topical bleeding by cups or leeches has by some been highly recommended: The former should be applied to the sides or back of the neck; the latter to the external fauces. After due incisions a blister to the neck will be highly useful. The topical means of promoting expectoration such as inhaling the steam of warm water or vinegar and water are sometimes productive of happy effects. With regard to the treatment of the third stage of croup little need be said, for unfortunately little can be done. The indications are first to get rid of the membrane or purulent matter obstructing respiration, and secondly to moderate the inflammation with a view of preventing the formation of more, and to support the sinking strength of the patient. To facilitate the discharge of the membrane two remedies have been resorted to



emetics and Tracheotomy. As to the choice of emetics, the antinonials are preferred by the European physicians in this country the Polygala clypea is usually employed in strong decoction and large doses. As a last resource Tracheotomy has been recommended and practised, but unhappily, with little success; perhaps one reason, of its frequent failure, is its being deferred until there is little to be expected from an operation. Performed with the view of extracting the membrane it has rarely succeeded and is now condemned by most writers on the subject. When the object is to prevent suffocation from spasmodic constriction of the glottis there are better grounds to hope for success. — Concerning the treatment of catarrhus suffocatus and congestion of the lungs (before alluded to as a frequent consequence of cough) will be my concluding remarks on this disease. It is not requisite that I should give in this place the diagnostic symptoms as they have been fully detailed in another and more appropriate place! The indication now in either case



is to relieve the oppressed lungs, and to establish an equable circulation. The best means of accomplishing this is to place the child in a warm bath, and whilst there to vomit freely. The sulphate of zinc has been warmly recommended, though the tartarate of Antimony with calomel and ipecacuanha is decidedly to be preferred. The juice of garlic also is said to be deserving of attention. In the congestive stage venesection is cautiously to be employed, owing to a peculiar state of the lungs in this disease which almost deters us from its employment. When the lancet is forbidden topical bleeding may be substituted with advantage. The vesicating applications are not to be neglected in this form of the disease. A blister should be applied over the breast and in very urgent cases, it is proposed as a more certain and decisive means of producing it, to apply cloths rung out of hot water, or pledges of flint dipped in a decoction of cantharides made with the spirit of turpentine. The subsequent treatment consists principally in those expectorants such as have been already mentioned.

